AMENDMENTS TO THE CLAIMS

Claims 1-12 (cancelled)

13. (New) A centrifugal engine charger for Internal Combustion (IC) Engines driven by a combined gear arrangement for multi-speed operation, said centrifugal engine charger comprising:

a) an electro-magnetic coil disposed in the clutch to receive signal from an electronic control unit,

b) a pulley means to receive input torque from the engine,

c) a one-way clutch disposed between said electro- magnetic coil and pulley to act as a switch in activating either said coil or pulley,

d) a metallic face plate disposed adjacent to said coil to receive activation from magnetic coil,

e) a ring gear with a pair of sliding engagement members connected to each other by means of an axial spline, one of said members comes in magnetic contact with the face plate on receiving activation from the coil via face plate and the other in rotary communication with a ring gear of an eccentric gear drive,

f) an eccentric gear drive, said eccentric gear drive further comprising an external circular rotating ring gear with a suitable tooth profile on its inner surface, a plurality of shaft members placed at equal distance from each other with one shaft placed at the central axis of said ring gear and the other shafts placed at equal distances, a sun gear is housed in the ring gear by way of mounting the same on

the shaft members with its teeth profile meshed with teeth profile of the ring gear to have a centrifugal and circumferential rotary motion, said sun gear provides a rotary motion to the central shaft,

g) a centrifugal clutch in conditional contact with the central shaft on one side and a rotor shaft of the engine on the other side subject to a pre-determined rpm, said rotor shaft driving an impeller of the engine charger,

h) a planetary gear drive of low gear ratio, said planetary gear activated by the pulley in conjunction with the one-way clutch in absence of electrical signal from the coil,

i) said planetary gear further comprising, an external circular rotating ring gear with a suitable teeth profile on its inner surface, a carrier disposed inside said ring gear, a pair of planetary gears mounted on said carrier, a sun gear is meshed in between said planetary gears, said planetary gears transmit rotary motion obtained from said ring gear to the sun gear,

j) a centrifugal clutch in conditional contact with the sun gear on one side and the rotor shaft of the engine on the other side subject to a pre-determined rpm, said rotor shaft driving an impeller of the engine charger.

14. (New) The engine charger of claim 13, wherein the one-way clutch disengages either pulley or the face plate subject to the supply of electrical signals to the magnetic coil.

15. (New) The engine charger of claim 13, wherein the metallic face plate is coated with special ceramic material to provide friction to engaging member of the ring gear.

16. (New) The engine charger of claim 13, wherein the combination of gear drives is selected from a combination of planetary, eccentric, cycloidal, orbiting or other conventional gear drives.

17. (New) The engine charger of claim 16, wherein one of the gear drives is an eccentric gear drive.

18. (New) The engine charger of claim 16, wherein a plurality of combination of planetary and eccentric drives is also used to achieve multiple levels of gear ratios.

19. (New) The engine charger of claim 13, wherein the shaft members of the eccentric gear drive are preferably positioned in the form of an equilateral/isosceles triangle with the central shaft on the central axis of the eccentric gear drive.

20. (New) The engine charger of claim 13, wherein the eccentric shaft members of the eccentric gear drive carry the ring gear which is driven by the Sun Gear.

21. (New) The engine charger of claim 13, wherein the central shaft is a hollow shaft connected to the rotor shaft of the charger through the centrifugal clutch member.

22. (New) A method for optimum power transmission to an engine by using charger of claim 13, said method comprising the steps of;

(a) receiving input torque of engine through a conveyor belt,

(b) transmitting electrical signal from Electronic Control Unit (ECU) to the magnetic coil,

(c) magnetizing the face plate and attracting the engaging member to provide axial slide motion,

(d) transmitting the axial sliding motion into rotary drive to activate the eccentric gear drive to provide a high gear ratio for low engine speeds,

(e) sensing and comparing the low engine rpm of the engine with the rpm of the central shaft of the sun gear to activate the centrifugal clutch,

(f) transmitting the low speed input torque to the rotor of the engine charger resulting in desired rotor speed,

(g) terminating the electrical signals to the magnetic coil whenever the rpm is beyond the threshold value,

(h) activating the pulley member by one-way clutch to provide low gear ratio in conjunction with the planetary gear drive for high engine speeds,

(i) transmitting the high speed input torque to the planetary gear drive through the pulley member,

(j) sensing and comparing the high engine rpm of the engine with the rpm of the sun gear to disconnect the central shaft of the eccentric gear from the rotor shaft at high rpm,

(k) activating the centrifugal clutch to provide higher speed to the engine charger, and

(l) repeating the steps of activation and deactivation of centrifugal and one-way clutch to provide a desired rpm of high and low speed to the engine charger.

23. (New) The method of claim 21, wherein at a given point of time only one gear drive is engaged to provide safety and higher efficiency.

24. (New) The method of claim 21, wherein switching of low and high gear drives is performed depending upon the rpm of the engine to provide optimum rpm to the engine.

25. (New) The method of claim 21, wherein a desired output rpm is provided on variable input rpm.